

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1-21. (Canceled)
22. (New) A method for handling a communication in a network, the method comprising:
- receiving, at a first node, a communication from a second node, wherein the communication includes an identification;
 - determining, at the first node, whether the identification included in the communication is closer to, equidistant from, or further from a predetermined value than an identification associated with the first node;
 - if the identification included in the communication is closer to the predetermined value than the identification associated with the first node, sending, from the first node to a third node, a communication including the identification associated with the first node;
 - if the identification included in the communication is further from the predetermined value than the identification associated with the first node, sending, from the first node to a third node, a communication including the identification that was included in the communication received from the second node; and
 - if the identification included in the communication is equidistant from the predetermined value as the identification associated with the first node, concluding that a loop exists in the network.
23. (New) The method of claim 22, wherein the first, second, and third nodes are repeaters.
24. (New) The method of claim 23, wherein the identification associated with the first node is a hardware address of a network device coupled to the first node.
25. (New) The method of claim 24, wherein the network device is a switch.

26. (New) The method of claim 24, wherein the network device is a gigabit Ethernet switch.
27. (New) The method of claim 24, wherein the hardware address is a media access control (MAC) address.
28. (New) The method of claim 22, further comprising, if the identification included in the communication is equidistant from the predetermined value as the identification associated with the first node, appointing the first node as a master loop breaker.
29. (New) A method for detecting a loop in a network of devices, the method comprising:
sending a loop detect message from a first device to a second device in the network of devices, wherein the loop detect message is substantially similar in length to an auto-negotiate message in a protocol supported by the first device and the second device.
30. (New) The method of claim 29, further comprising, in a field in which an auto-negotiate message would ordinarily have a first content according to the protocol, placing a second content identifying the message as a loop detect message.
31. (New) The method of claim 29, wherein the first and second devices are repeaters coupled to network switches.
32. (New) The method of claim 30, wherein the protocol is a Gigabit Ethernet protocol.
33. (New) An apparatus for handling a communication in a network, the apparatus comprising:
one or more components configured to:
receive, at a first node, a communication from a second node, wherein the communication includes an identification;

determine, at the first node, whether the identification included in the communication is closer to, equidistant from, or further from a predetermined value than an identification associated with the first node;

if the identification included in the communication is closer to the predetermined value than the identification associated with the first node, send, from the first node to a third node, a communication including the identification associated with the first node;

if the identification included in the communication is further from the predetermined value than the identification associated with the first node, send, from the first node to a third node, a communication including the identification that was included in the communication received from the second node; and

if the identification included in the communication is equidistant from the predetermined value as the identification associated with the first node, conclude that a loop exists in the network.

34. (New) The apparatus of claim 33, wherein the first, second, and third nodes are repeaters.
35. (New) The apparatus of claim 34, wherein the identification associated with the first node is a hardware address of a network device coupled to the first node.
36. (New) The apparatus of claim 35, wherein the network device is a switch.
37. (New) The apparatus of claim 35, wherein the network device is a gigabit Ethernet switch.
38. (New) The apparatus of claim 35, wherein the hardware address is a media access control (MAC) address.
39. (New) The apparatus of claim 33, wherein the one or more components are further

configured to, if the identification included in the communication is equidistant from the predetermined value as the identification associated with the first node, appointing the first node as a master loop breaker.

40. (New) An apparatus for detecting a loop in a network of devices, the apparatus comprising:

one or more components configured to send a loop detect message from a first device to a second device in the network of devices, wherein the loop detect message is substantially similar in length to an auto-negotiate message in a protocol supported by the first device and the second device.

41. (New) The apparatus of claim 40, wherein the one or more components are further configured to, in a field in which an auto-negotiate message would ordinarily have a first content according to the protocol, place a second content identifying the message as a loop detect message.

42. (New) The apparatus of claim 40, wherein the first and second devices are repeaters coupled to network switches.

43. (New) The apparatus of claim 41, wherein the protocol is a Gigabit Ethernet protocol.

44. (New) An apparatus for handling a communication in a network, the method comprising:

means for receiving, at a first node, a communication from a second node, wherein the communication includes an identification;

means for determining, at the first node, whether the identification included in the communication is closer to, equidistant from, or further from a predetermined value than an identification associated with the first node;

means for:

if the identification included in the communication is closer to the

predetermined value than the identification associated with the first node, sending, from the first node to a third node, a communication including the identification associated with the first node;

if the identification included in the communication is further from the predetermined value than the identification associated with the first node, sending, from the first node to a third node, a communication including the identification that was included in the communication received from the second node; and

if the identification included in the communication is equidistant from the predetermined value as the identification associated with the first node, concluding that a loop exists in the network.